Mercury in Drilling Muds Past, Present, and Future

Presented by

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Effluent Guidelines - 1993

- On March 4, 1993, EPA issued effluent guidelines for the Offshore Oil and Gas Extraction Point Source Category
- Guidelines contained a requirement for the use of bedded/'clean' barite
- 'Clean' barite was defined as having no more than 1ppm mercury and 3ppm cadmium

Effluent Guidelines cont.

- Basis for 1ppm mercury and 3ppm cadmium was correlation to other metals in the drilling fluids and controlling for these lead to control of other metals
- Easier to regulate stock barite contents as opposed to individual chemicals at the end-of-pipe

1994/95 Industry Study

- As part of the general permit, EPA Region 6 required that a bioaccumulation study be done on produced waters
- Three cruises of 12 platform pairs were conducted
- 1 platform was discharging, the other non-discharging

1994/95 Study cont.

- Fish collected at 11 pairs; fish, shellfish, produced water, and sea water collected at the 12th pair
- Concentration in edible tissue of specimens was <0.04 ug/g mercury in the majority of samples
- In terms of production water, there did not seem to be a bioaccumulation effect

Present Concerns

- Recent articles in the Mobile (AL) Register have suggested that there are high levels of mercury in fish tissue from the Gulf of Mexico
- These articles have raised concerns that these elevated levels may be potentially related to the discharge of drilling muds from offshore facilities

Present and Future Actions

- EPA's Gulf of Mexico Program and the National Marine Fisheries Service are planning to collect 2500 fish samples in the Gulf for mercury analysis
- This study is designed to get a comprehensive look at the status of the Gulf fishery as it relates to mercury

Present and Future Actions

- EPA Region 4 has submitted a request for Discretionary Regional Geographic Initiative funds to either supplement the previous study or conduct historical data gathering and literature review
- EPA awaits the findings of the MMS Science Committee on this topic for future direction